

Date: Wed, 13 Jul 94 04:30:42 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #192
To: Ham-Homebrew

Ham-Homebrew Digest Wed, 13 Jul 94 Volume 94 : Issue 192

Today's Topics:

 'Who was that masked capacitor?' (4 msgs)
 Beware of RADIOKIT kits (IMHO) (2 msgs)
 DISTRIBUTED CAPACITANCE
 Frequency conversion - non-linear mode
 Help-Remote Control circuits
 RDF kit order lost (2 msgs)
 SELL/Filter Capacitor for BIG Linear applications
 Source for Crystal filters?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 11 Jul 1994 23:37:37
From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!news.umbc.edu!hookup!
nic.ott.hookup.net!tallath.ott.hookup.net!tallath@network.ucsd.edu
Subject: 'Who was that masked capacitor?'
To: ham-homebrew@ucsd.edu

I was wondering if any of you fine gentleman could answer a simple
question for me. I'm searching for what has been coined as a 'piston trimmer'
capacitor. From what I know it is a variable capacitor but when I ask for it
at Wackid's, Radio Shack, and electronics stores they either don't know what
I'm asking for or have a vague idea what I'm talking about but can't seem to
convey a good description of it to me.

This problem is compounded by the fact that I don't know what it looks
like and don't know where I should look for one. I've checked the FAQ with no

success. Could someone explain what it is, what it would probably look like, and since no one here - where I am, not in this newsgroup - knows what I'm asking for, could someone give an order number or suggest a good place to mail-order from that might have some.

Thanks

Date: 12 Jul 94 14:23:03 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!agate!howland.reston.ans.net!
vixen.cso.uiuc.edu!aries!hawley@network.ucsd.edu
Subject: 'Who was that masked capacitor?'
To: ham-homebrew@ucsd.edu

tallath@hookup.net (Gordon R Beatty) writes:

> I was wondering if any of you fine gentleman could answer a simple
>question for me. I'm searching for what has been coined as a 'piston trimmer'
>capacitor. From what I know it is a variable capacitor but when I ask for it
>at Wackid's, Radio Shack, and electronics stores they either don't know what
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>and since no one here - where I am, not in this newsgroup - knows what I'm
>asking for, could someone give an order number or suggest a good place to
>mail-order from that might have some.

It's round, made out of glass or ceramic, and the capacity is between the metal on the outside of the round tubular glass and the round tubular metal cylinder that moves to and fro inside the glass tube. The glass or ceramic is the dielectric. The end of the glass tube has a cap made out of metal with a threaded hole in it, and the movable cylinder has a threaded rod attached to it. Turning the threaded rod gives a precise movement of the cylinder within the tube. Try Digi-Key 1-800-344-4539 (only one kind offered) or Newark (many branches around the country but \$25 minimum) 1-312-784-5100

Chuck Hawley, KE9UW in Urbana, Illinois
hawley@aries.scs.uiuc.edu
School of Chemical Sciences, Electronic Services
University of Illinois, Urbana-Champaign

> Thanks

Date: Tue, 12 Jul 1994 14:50:45 GMT
From: tandem!mustang!a-rickf@uunet.uu.net
Subject: 'Who was that masked capacitor?'
To: ham-homebrew@ucsd.edu

In article 0017A12F@hookup.net, tallath@hookup.net (Gordon R Beatty) writes:
> ... I'm searching for what has been coined as a 'piston trimmer'
> capacitor. From what I know it is a variable capacitor.

-Correct

> ... This problem is compounded by the fact that I don't know what it looks
> like and don't know where I should look for one. ...

A piston trimmer capacitor physically looks like an insulative tube with an electrode on the outside (plated or foil wrapped) and an adjustable element that looks like a slug that slides in and out of the tube. The amount of capacitance, as you might guess, varies relative to the amount of the two conductive parts that are adjacent to one another (overlap?). Works just like any other variable cap, but normally uses the tube as dielectric instead of air (standard rotary variable) or air and mylar insulator (compression trimmer)

They used to be available from Allied, etc (years ago), and at all the surplus places. I haven't seen one in years, but that doesn't mean they're not still available, just that I've not been looking for any. Typical size of the ones I've played with was around 1/4" in diameter and 1" long or less. I'd imagine you could use any trimmer with sufficient voltage rating and capacitance as a substitute.

--good hunting---

--Rick KD6QZD a-rickf@ac.tandem.com

Date: Tue, 12 Jul 1994 23:23:17 GMT
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!convex!news.duke.edu!eff!news.kei.com!ddsw1!indep1!clifto@network.ucsd.edu
Subject: 'Who was that masked capacitor?'
To: ham-homebrew@ucsd.edu

In article <tallath.3.0017A12F@hookup.net> tallath@hookup.net (Gordon R Beatty) writes:

> I was wondering if any of you fine gentleman could answer a simple
> question for me. I'm searching for what has been coined as a 'piston trimmer'

They're like a little white tube with a lead off each end and a screw going into one end. Some are maybe 3/4" long by 1/8" diameter. Also called multiturn trimmers. If you have the July-Aug 1994 DigiKey catalog, look at the bottom of page 205 for pictures.

--

	Optimists say, "The glass is half full."
Cliff Sharp	Pessimists say, "It's half empty."
WA9PDM	We realists say, "Before I decide,
clifto@indep1.chi.il.us	tell me what's in the glass."

Date: 11 Jul 1994 21:52:02 -0400
From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net
Subject: Beware of RADIOKIT kits (IMHO)
To: ham-homebrew@ucsd.edu

In article <1994Jun12.122846.1@ccsua.ctstateu.edu>,
white@ccsua.ctstateu.edu writes:

You go that right I ran into the same problems with their QRP 17. Never again though. I still cant get the thing to work right. I only get about 1 to 1.5 watts output on mine.

Pete

Date: 12 Jul 94 00:32:13 EST
From: csusys.ctstateu.edu!white@yale.arpa
Subject: Beware of RADIOKIT kits (IMHO)
To: ham-homebrew@ucsd.edu

I still agree. Radiokit needs to get their act together. The QRP-20 kit has taken its rightful place in my ham career: as my first failure. Every solder joint checked, schematic traced, coils verified and turns recounted, etc. etc. They should *at least* tell you that the kit is for advanced builders or EEs :)

It was also missing 7 parts though they did mail the parts promptly. The manual is a joke, and would be just as worthless to the builder of the QRP-15, which is the manual supplied with the QRP-20.

C'est la vie. We learn.

73 de N1QVE
Harry

Date: Tue, 12 Jul 94 21:04:33 EDT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!darwin.sura.net!opusc!
UNIVSCVM.CSD.SCAROLINA.EDU!T230579@network.ucsd.edu
Subject: DISTRIBUTED CAPACITANCE
To: ham-homebrew@ucsd.edu

Someone MUST know the answer to this question:

How does one CALCULATE the distributed capacitance of a long, single-layer solenoid? I cannot find this calculation anywhere. I have posted on science groups, even MENSA, and no one can help me. I know how to get it from a existing coil, but I want to be able to design them for a specific value and not have to do it all empirically. If someone has the answer, could you mail me what it is? This is all that is stopping me from finishing a book. You will be mentioned if the thing is ever published...
My e-mail address is: t230579@univscvm.csd.scarolina.edu

Please start with "Attention Dan"

Thanks tremendously!

Date: Tue, 12 Jul 1994 16:51:51 GMT
From: ftpbox!mothost!pts-nntp!sun32!ep588deb@uunet.uu.net
Subject: Frequency conversion - non-linear mode
To: ham-homebrew@ucsd.edu

In article 110794154454@brainiac.hi.com, steve@hi.com (Steve Byan) writes:

>> Dr. Ulrich Rohde has had several article in QEX on modeling receiver
>> front ends and other RF circuits.

>>

>[...]

>>

>> It's all above me, but it looks like he can get noise figure and
>> dynamic range out of a software package called Microwave Harmonica.

>

>I dunno about Microwave Harmonica, but it seems to me that a good part of
>Rohde's articles deal with calculating the system 3rd-order intercept given
>the 3rd-order intercept of the pieces. This is well and good, but it leaves
>me wondering how to predict the 3rd-order intercept of the pieces. I
>suppose one measures it in the lab. (Lab? What's that? :-). Since I'm
>lab-equipment-poor, I'm interested in good models that predict 3rd-order
>intercept reasonably well.

>

>Steve Byan
>Hitachi Computer Products (America), Inc.
>1601 Trapelo Road

internet: steve@hi.com
phone: (617) 890-0444

>Waltham, MA 02154

FAX: (617) 890-4998

If you'd like to spend a bunch of cash on a recent non-linear simulator, MDS has been working well for me. Microwave Harmonica will also work. The problem with simulating IP3 is that you need models that represent the reality of the device fairly closely. What I have been doing is to do modeling and banchwork in parallel, so that I can confirm both sets of results independently. As far as measuring IP3, all you need is 2 signal generators and a spectrum analyzer. (Motorola paid for mine !) . A lot depends on the frequency band you are working in.

David Bengtson 407-364-3806
Motorola No, I'm not speaking for Motorola
Mail Stop 98 If I was, I'd be making more money!
1500 NW 22nd Ave
Boynton Beach, FL 33626

Date: 12 Jul 1994 01:00:55 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!udel!news2.sprintlink.net!news.sprintlink.net!tequesta.gate.net!inca.gate.net!optronic@network.ucsd.edu
Subject: Help-Remote Control circuits
To: ham-homebrew@ucsd.edu

I am Newbie2be Tech amateur looking for any info on small RF remote control circuits for hand held use, like for activating / deactivating mobile alarms and such. Would this fall under the 50 Mhz. "model craft" section? I am interested in building / learning about RF control, please point me and I shall run in that direction. Thanks,

Bob Bronson optronic@gate.net

Date: 12 Jul 94 00:39:15 -0800
From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!vax.sonoma.edu!harrisok@network.ucsd.edu
Subject: RDF kit order lost
To: ham-homebrew@ucsd.edu

In article <CssAu6.ADI@nntpa.cb.att.com>, wa2sff@arch4.ho.att.com () writes:
> At the Dayton Hamfest there was a fellow selling RDF kits
> based on the May 93 article in QST on the "Handi-Finder."
>

> I bought a kit and it works fine.
>
> I then followed up with an order for 25 kits for our
> local ham radio club and RACES group.

Just what type of RDF kits were these? I never saw the article...

73,
Ken Harrison
N6MHG
email: harrisok@sonoma.edu

Date: Tue, 12 Jul 1994 12:33:44 GMT
From: pacbell.com!att-out!nntpa!not-for-mail@ames.arpa
Subject: RDF kit order lost
To: ham-homebrew@ucsd.edu

The article is
"Build the HANDI-Finder!"
May 1993 QST, page 35
author: Bob Leskovec, K8DTS

Joe Wilkes

Date: 11 Jul 1994 18:08:38 -0500
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!uwm.edu!omnifest.uwm.edu!
omnifest.uwm.edu!not-for-mail@network.ucsd.edu
Subject: SELL/Filter Capacitor for BIG Linear applications
To: ham-homebrew@ucsd.edu

Hi,
I have a Cornell Dubilier Mod. LPC 102-1 Filter Capacitor rated at:
8KVDC @ 16MFD. It is in new unused condition. Physical dimensions are:
12" high (including terminals) X 8" wide X 6" deep.
Price: \$50.00 plus shipping (weight approx 30#
Contact: raym@omnifest.uwm.edu
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Date: 12 Jul 1994 21:09:11 -0400
From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net
Subject: Source for Crystal filters?

To: ham-homebrew@ucsd.edu

Does anyone know where one can buy various crystal filters in small quantities?

Can you get them at different frequencies?

Also most filters I have ever seen were band pass in the QST receiver article by

Dr Rhode he mentions a Crystal Roofing filter, I get the impression he means a

crystal low pass filter with a steep skirt. I have never seen a crystal lowpass filter?

How is one constructed????

Date: 12 Jul 94 06:36:45 GMT

From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!europa.eng.gtefsd.com!

MathWorks.Com!noc.near.net!news.delphi.com!BIX.com!jdow@network.ucsd.edu

To: ham-homebrew@ucsd.edu

References <jdow.773702146@BIX.com>, <mzenierCssFwE.J0M@netcom.com>,

<steve-110794154454@brainiac.hi.com>,

Subject : Re: Frequency conversion - non-linear mode

steve@hi.com (Steve Byan) writes:

>> Dr. Ulrich Rohde has had several article in QEX on modeling receiver
>> front ends and other RF circuits.

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>[...]

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>Steve Byan

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>Waltham, MA 02154

FAX: (617) 890-4998

If you can get one point on the IMD curve you can calculate the intercept point. So if your modeling SW provides "two interfering signals of -27dBm each produce an IMD product of -107dBm" or even "100dB dynamic range relative to sensitivity of -117dBm" etc you can work backwards to the intercept point.

Taking the first cited data, -107dBm birdy for two -27dBm signals, we can work backwards. For every 1dB we increase the signal levels the birdy goes up three or the difference drops by 2db. Since the difference is 80dB as cited we have to reduce the difference by 80dB to get signal equal to spur, in the method used with military projects when I was doing them. Hence we must change the individual signals by half the 80dB. -27dBm + 40dB gives an intercept point of +13dBm. (Which ain't all that bad.)

{^_^} jdown@bix.com

End of Ham-Homebrew Digest V94 #192
